

Status of all Claims in the Application:

1. (Currently Amended) A manufacturing fixture for manufacturing a magnet from a magnet powder, the magnet including a north pole, a south pole and a first region axis which extends between the north pole and the south pole, the manufacturing fixture comprising:

a fixture body including a fixture cavity for receiving the magnet powder, the fixture cavity having a cavity axis which is substantially parallel with the first region axis when the magnet powder is in the fixture cavity, the fixture cavity including a first region; and

an orientating device adapted to create a magnetic field having flux lines which extend through a portion of the fixture cavity, wherein a portion of the flux lines in the first region of the fixture cavity align a portion of the magnet powder to be are substantially parallel to the cavity axis, and a portion of the ~~flux lines outside of the first region of the fixture cavity are~~ magnet powder to be angled relative to the cavity axis.

2. (Previously Presented) The fixture of claim 1 wherein a portion of the flux lines in the fixture cavity extend substantially transversely to the cavity axis.

3. (Previously Presented) The fixture of claim 1 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein a portion of the flux lines near the cavity transition extend substantially transversely to the cavity axis.

4. (Previously Presented) The fixture of claim 3 wherein a portion of the flux lines in the fixture cavity are substantially parallel with the cavity axis.

5. (Previously Presented) The fixture of claim 1 wherein a portion of

the flux lines in the cavity fixture positioned near a cavity perimeter are angled relative to the cavity axis.

6. (Previously Presented) The fixture of claim 1 wherein a portion of the flux lines in the fixture cavity are substantially parallel with the cavity axis.

7. (Previously Presented) The fixture of claim 1 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the cavity axis.

8. (Previously Presented) The fixture of claim 1 wherein the fixture cavity includes an upper side and a lower side that are positioned substantially perpendicular to the cavity axis, and the orientating device includes a coil positioned near one of the sides of the fixture cavity.

9. (Previously Presented) The fixture of claim 8 wherein the orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

10. (Previously Presented) The fixture of claim 1 including an upper punch which is adapted to move relative to the fixture body and compress the magnet powder in the fixture cavity and the orientating device is positioned near the upper punch.

11. (Previously presented) A fixture for manufacturing a permanent magnet, the permanent magnet having a magnet body which is made of a magnet powder, the magnet body having a first segment which includes a first region and a second region, the first region having a first region axis which extends between a north pole and a south pole of the first region, the fixture comprising:

a fixture body including a fixture cavity which is adapted to receive

the magnet powder; and

an orientating device adapted for aligning a portion of the magnet powder in the fixture cavity to form a powder pattern in the magnet body having second region powder lines in at least a portion of the second region which are angled relative to the first region axis.

12. (Original) The fixture of claim 11 wherein the orientating device is adapted to align a portion of the magnet powder so that the powder pattern has first region powder lines in at least a portion of the first region of the magnet which are substantially parallel with the first region axis.

13. (Original) The fixture of claim 11 wherein the fixture cavity has a cavity axis which is substantially parallel to the first region axis; wherein the orientating device is adapted to create flux lines which extend into the fixture cavity.

14. (Original) The fixture of claim 13 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein a portion of the flux lines near the cavity transition extend substantially transversely to the cavity axis.

15. (Original) The fixture of claim 14 wherein at least a portion of the flux lines in the fixture cavity are substantially parallel with the cavity axis.

16. (Original) The fixture of claim 15 wherein at least a portion of the flux lines in the fixture cavity near a cavity perimeter of the fixture cavity are angled relative to the cavity axis.

17. (Original) The fixture of claim 13 wherein at least a portion of the flux lines in the fixture cavity are substantially parallel with the cavity axis.

18. (Original) The fixture of claim 13 wherein at least a portion of the flux lines in the cavity fixture near a cavity perimeter are angled relative to the cavity axis.

19. (Canceled)

20. (Original) The fixture of claim 11 wherein the orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

21-26. (Canceled)

27. (Currently Amended) A ~~manufacturing~~ fixture for manufacturing a magnet using from a magnet powder, the magnet including a north pole, a south pole and a first region axis, ~~the first region axis extending between the north pole and the south pole~~, the ~~manufacturing~~ fixture comprising:

a fixture body including defining a fixture cavity that receives the magnet powder, the fixture cavity having a first side and a second side opposite the first side; and

an orientating device that is positioned near only one side of the fixture cavity, ~~the orientating device that creates~~ creating a magnetic field having flux lines that extend ~~through~~ into the fixture cavity, wherein a portion of the flux lines in the fixture cavity are angled relative to the first region axis when the magnet powder is in the fixture cavity.

28. (Currently Amended) The fixture of claim 27 wherein a portion of the flux lines in the fixture cavity extend transversely relative to the first region axis when the magnet powder is in the fixture cavity.

29. (Currently Amended) The fixture of claim 27 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein the flux lines near the cavity transition extend transversely to the first region axis when the magnet powder is in the fixture cavity.

30. (Currently Amended) The fixture of claim 29 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet powder is in the fixture cavity.

31. (Currently Amended) The fixture of claim 30 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet powder is in the fixture cavity.

32. (Currently Amended) The fixture of claim 27 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet powder is in the fixture cavity.

33. (Currently Amended) The fixture of claim 27 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet powder is in the fixture cavity.

34. (Currently Amended) A method for manufacturing a magnet using a magnet powder, the magnet including a north pole, a south pole and a first region axis which extends between the north pole and the south pole, the method comprising the ~~step~~ steps of:

providing a fixture cavity;

positioning the magnet powder in the fixture cavity; and

creating flux lines which extend ~~through a portion of~~ into the fixture cavity, wherein a portion of the flux lines in the fixture cavity align a portion

of the magnet powder to be are angled relative to the first region axis.

35. (Previously presented) The method of claim 34 wherein the step of creating flux lines includes the step of creating flux lines in the fixture cavity which extend substantially transversely to the first region axis.

36. (Previously presented) The method of claim 34 wherein the step of providing a fixture cavity includes providing a fixture cavity having a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, and the step of creating flux lines includes creating flux lines near the transition which extend substantially transversely to the first region axis.

37. (Previously presented) The method of claim 36 wherein the step of creating flux lines includes creating flux lines in the fixture cavity which are substantially parallel with the first region axis.

38. (Previously presented) The method of claim 37 wherein the step of creating flux lines includes creating flux lines in the cavity fixture near a cavity perimeter which are angled relative to the first region axis.

39. (Previously presented) The method of claim 34 wherein the step of creating flux lines includes creating flux lines in the fixture cavity near a cavity perimeter which are angled relative to the first region axis.

40-41. (Canceled)

42. (Previously presented) The fixture of claim 11 wherein the orientating device is adapted to align a portion of the magnet powder so that the powder pattern has first region powder lines in at least a portion of the first region of the magnet, and wherein the orientating device is adapted to create flux lines

which extend into the fixture cavity.

43. (Previously presented) The fixture of claim 11 wherein the fixture cavity has a cavity axis which is substantially parallel to the first region axis.

44. (Previously presented) The fixture of claim 43 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein a portion of the flux lines near the cavity transition extend approximately transversely to the cavity axis.

45. (Previously presented) The fixture of claim 44 wherein at least a portion of the flux lines in the fixture cavity are parallel to the cavity axis.

46. (Previously presented) The fixture of claim 45 wherein at least a portion of the flux lines in the fixture cavity near a cavity perimeter of the fixture cavity are angled relative to the cavity axis.

47. (Previously presented) The fixture of claim 43 wherein at least a portion of the flux lines in the fixture cavity are parallel to the cavity axis, and wherein at least a portion of the flux lines in the cavity fixture near a cavity perimeter are angled relative to the cavity axis.

48-49. (Canceled)

50. (Currently Amended) The fixture of claim 27 ~~wherein the fixture cavity includes an upper side and a lower side that are positioned substantially perpendicular to the cavity axis, and the orientating device includes a coil positioned near one of the sides of the fixture cavity.~~

51. (Previously presented) The fixture of claim 50 wherein the

orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

52. (Previously presented) The fixture of claim 27 including an upper punch that is positioned near the orientating device, the upper punch being adapted to move relative to the fixture body and compress the magnet powder in the fixture cavity.

53. (Currently Amended) A ~~manufacturing~~ fixture for manufacturing a magnet from a magnet powder, the manufacturing fixture comprising:

a fixture body ~~including~~ defining a fixture cavity for receiving the magnet powder, the fixture cavity having a cavity axis, the fixture cavity including an upper side and a lower side that are positioned substantially perpendicular to the cavity axis, the upper side and the lower side being substantially planar; and

an orientating device positioned near only one of the sides of the fixture cavity, the orientating device adapted to create generating a magnetic field having flux lines which extend through a portion of the fixture cavity, wherein a portion of the flux lines in the fixture cavity are angled relative to the remaining flux lines in the fixture cavity.

54. (Previously presented) The fixture of claim 53 wherein a portion of the flux lines in the fixture cavity extend substantially transversely to at least a portion of the remaining flux lines in the fixture cavity.

55. (Previously presented) The fixture of claim 53 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein a portion of the flux lines near the cavity transition extend substantially transversely to at least a portion of the remaining flux lines in the fixture cavity.

56. (Previously presented) The fixture of claim 53 wherein the fixture cavity includes an upper side and a lower side and the orientating device includes a coil positioned near one of the sides of the fixture cavity.

57. (Previously presented) The fixture of claim 56 wherein the orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

58. (Previously presented) The fixture of claim 53 including an upper punch positioned near the orientating device, the upper punch being adapted to move relative to the fixture body and compress the magnet powder in the fixture cavity.

59-60. (Canceled)

61. (Currently Amended) A manufacturing fixture for manufacturing a magnet using a magnet powder, the magnet including a north pole, a south pole and a first region axis, the first region axis extending between the north pole and the south pole, the manufacturing fixture comprising:

- an upper punch;

- a lower punch;

- a fixture body positioned between the upper punch and the lower punch, the fixture body defining a fixture cavity that receives the magnet powder; and

- an orientating device that is ~~at least partially~~ positioned directly between the upper punch and the lower punch, the orientating device creating a magnetic field having flux lines that extend through the fixture cavity, wherein a portion of the flux lines in the fixture cavity are angled relative to the first region axis when the magnet is in the fixture cavity.

62. (Previously presented) The fixture of claim 61 wherein a portion of the flux lines in the fixture cavity extend transversely relative to the first region axis when the magnet is in the fixture cavity.

63. (Previously presented) The fixture of claim 61 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein the flux lines near the cavity transition extend transversely to the first region axis when the magnet is in the fixture cavity.

64. (Previously presented) The fixture of claim 63 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet is in the fixture cavity.

65. (Previously presented) The fixture of claim 64 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet is in the fixture cavity.

66. (Previously presented) The fixture of claim 61 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet is in the fixture cavity.

67. (Previously presented) The fixture of claim 61 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet is in the fixture cavity.

68. (Previously presented) The fixture of claim 61 wherein the fixture cavity includes an upper side and a lower side that each are positioned substantially perpendicular to the cavity axis, and the orientating device includes a coil positioned near one of the sides of the fixture cavity.

69. (Previously presented) The fixture of claim 68 wherein the orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

70. (Previously presented) The fixture of claim 61 wherein one of the punches moves relative to the fixture body and compresses the magnet powder in the fixture cavity.

71. (New) A manufacturing fixture for manufacturing a magnet using a magnet powder, the magnet including a north pole, a south pole and a first region axis, the first region axis extending between the north pole and the south pole, the manufacturing fixture comprising:

- an upper punch;

- a lower punch;

- a fixture body defining a fixture cavity that receives the magnet powder; and

- an orientating device that is at least partially positioned directly between the upper punch and the lower punch, the orientating device creating a magnetic field having flux lines that extend through the fixture cavity, wherein a portion of the flux lines in the fixture cavity are angled relative to the first region axis when the magnet powder is in the fixture cavity.

72. (New) The fixture of claim 71 wherein a portion of the flux lines in the fixture cavity extend transversely relative to the first region axis when the magnet powder is in the fixture cavity.

73. (New) The fixture of claim 71 wherein the fixture cavity includes a first cavity segment, a second cavity segment and a cavity transition between the first cavity segment and the second cavity segment, wherein the flux lines near the cavity transition extend transversely to the first region axis when the magnet powder is in the fixture cavity.

74. (New) The fixture of claim 73 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet powder is in the fixture cavity.

75. (New) The fixture of claim 74 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet powder is in the fixture cavity.

76. (New) The fixture of claim 71 wherein a portion of the flux lines in the fixture cavity are parallel with the first region axis when the magnet powder is in the fixture cavity.

77. (New) The fixture of claim 71 wherein the flux lines in the cavity fixture near a cavity perimeter are angled relative to the first region axis when the magnet powder is in the fixture cavity.

78. (New) The fixture of claim 71 wherein the fixture cavity includes an upper side and a lower side that each are positioned substantially perpendicular to the cavity axis, and the orientating device includes a coil positioned near one of the sides of the fixture cavity.

79. (New) The fixture of claim 78 wherein the orientating device includes a pair of spaced apart, adjacent coils positioned near one of the sides of the fixture cavity.

80. (New) The fixture of claim 71 wherein one of the punches moves relative to the fixture body and compresses the magnet powder in the fixture cavity.

81. (New) The fixture of claim 71 wherein the portion of the flux lines are angled by at least approximately five degrees relative to the first region axis.

82. (New) The fixture of claim 71 wherein the portion of the flux lines are angled by at least approximately 15 degrees relative to the first region axis.

83. (New) The fixture of claim 11 wherein the second region powder lines are angled by at least approximately five degrees relative to the first region axis.

84. (New) The fixture of claim 11 wherein the second region powder lines are angled by at least approximately 15 degrees relative to the first region axis.

85. (New) The fixture of claim 27 wherein the portion of the flux lines are angled by at least approximately five degrees relative to the first region axis.

86. (New) The method of claim 34 wherein the step of creating flux lines includes creating flux lines that angle the portion of the magnet powder by at least approximately five degrees relative to the first region axis.

87. (New) The method of claim 34 wherein the step of creating flux lines includes creating flux lines that angle the portion of the magnet powder by at least approximately 15 degrees relative to the first region axis.

88. (New) The fixture of claim 61 wherein the portion of the flux lines are angled by at least approximately five degrees relative to the first region axis.